

	English/Language Arts	Mathematics	Social Studies
<b>ACTIVITY</b>			
Idea Pools (7)	8.4.1, 8.5.7, 8.7.12		
Water Actions (12)	8.2.5, 8.4.1, 8.4.2, 8.4.4, 8.4.5, 8.5.3, 8.5.4, 8.5.7, 8.7.12, 8.7.13		8.2.5, 8.4.1, 8.4.2, 8.4.4, 8.4.5, 8.5.3, 8.5.7, 8.7.12, 8.7.13
Water Log (19)	8.4.1		
Adventures In Density (25)	8.7.11, 8.7.12		
H <sub>2</sub> O Olympics (30)		8.6.4	
Hangin' Together (35)	8.5.3, 8.5.7, 8.6.1		
Is There Water On Zork? (43)	8.5.7, 8.6.1	8.6.1	
What's The Solution? (54)	8.1.3, 8.5.7, 8.6.1		
Let's Even Things Out (72)	8.2.5, 8.4.5, 8.5.3, 8.5.7, 8.6.1		
Life In The Fast Lane (79)	8.5.3, 8.5.7, 8.6.1	8.6.4	
No Bellyachers (85)	8.4.1, 8.7.12		
People Of The Bog (89)	8.4.1, 8.5.3, 8.5.7, 8.6.1		
Poison Pump (93)	8.4.1		
Super Sleuths (107)			8.3.2
Thirsty Plants (116)	8.5.7, 8.6.1	8.6.4	8.3.4
Water Address (122)	8.4.1, 8.6.1		
Branching Out! (129)	8.5.7, 8.6.1		

	English/Language Arts	Mathematics	Social Studies
<b>ACTIVITY</b>			
Get The Ground Water Picture (136)		8.2.1, 8.5.2, 8.7.1	
Geyser Guts (144)	8.4.1		
The Great Stony Book (150)	8.4.1		
Imagine! (157)	8.4.1, 8.5.7		
The Incredible Journey (161)	8.4.1, 8.5.7, 8.6.1		
Just Passing Through (166)			8.3.4
Old Water (171)	8.6.1		
Piece It Together (174)	8.4.1, 8.5.1, 8.5.3, 8.5.7		8.3.3, 8.3.7
Poetic Precipitation (182)	8.3.1, 8.4.1, 8.5.6, 8.5.7		
Rainy-Day Hike (186)	8.4.1		8.3.4
Water Models (201)	8.1.3, 8.4.1		8.3.3
Wet Vacation (206)	8.5.3, 8.5.6, 8.5.7, 8.6.1		8.3.2, 8.3.3
A-maze-ing Water (219)	8.4.1, 8.5.3, 8.5.6, 8.5.7, 8.6.1		
Common Water (232)	8.4.1		8.3.8, 8.3.9
A Drop In The Bucket (238)	8.7.12		
Energetic Water (242)			8.3.8, 8.3.9, 8.5.7
Great Water Journeys (246)	8.3.7, 8.6.1		8.1.2, 8.1.11, 8.3.8

	English/Language Arts	Mathematics	Social Studies
<b>ACTIVITY</b>			
Irrigation Interpretation (254)	8.5.3, 8.5.7, 8.6.1, 8.7.12		8.3.5, 8.3.7, 8.3.9
The Long Haul (260)	8.4.1, 8.7.10		8.5.7
Nature Rules! (262)	8.4.1, 8.4.7, 8.4.8, 8.4.9, 8.5.3, 8.5.6, 8.5.7, 8.6.1, 8.7.2, 8.7.5, 8.7.6, 8.7.12		
Sum Of The Parts (267)	8.5.7, 8.6.1		8.3.2, 8.3.9
Water Meter (271)	8.4.1, 8.6.1, 8.5.7	8.2.1, 8.5.1	
Water Works (274)	8.4.1		
Where Are The Frogs? (279)	8.5.7, 8.6.1	8.6.4	
AfterMath (289)	8.4.1, 8.7.6, 8.7.12	8.2.1, 8.6.4	
Back To The Future (293)		8.6.4	8.3.8, 8.3.10
Every Drop Counts (307)	8.4.1, 8.5.7, 8.6.1	8.2.1, 8.5.1	
A Grave Mistake (311)	8.6.1	8.6.4	8.1.31, 8.3.9, 8.5.7
Humpty Dumpty (316)	8.4.1, 8.5.3, 8.5.6, 8.5.7, 8.6.1		8.3.9
Macroinvertebrate Mayhem (322)	8.5.3, 8.5.6, 8.5.7, 8.6.1, 8.7.12		8.3.9
Money Down The Drain (328)	8.4.1	8.2.1, 8.5.1	
The Pucker Effect (338)	8.5.3		8.3.9
Reaching Your Limits (344)	8.4.1, 8.5.7		8.3.9
Sparkling Water (348)	8.4.1, 8.5.6, 8.5.7		8.3.9
Super Bowl Surge (353)			8.3.9

	English/Language Arts	Mathematics	Social Studies
<b>ACTIVITY</b>			
Wet-Work Shuffle (360)	8.4.1, 8.5.7		
Choices And Preferences, Water Index (367)	8.4.1	8.2.1, 8.6.4	8.3.9
Dilemma Derby (377)	8.4.1		8.3.9
Easy Street (382)		8.2.1	8.3.9, 8.5.7
Pass The Jug (392)			8.1.31, 8.2.9, 8.2.13
Perspectives (397)	8.4.1, 8.5.3, 8.5.6, 8.5.7, 8.6.1, 8.7.12		8.3.9
Water: Read All About It! (400)	8.4.1, 8.4.6, 8.4.7, 8.4.8, 8.4.9, 8.5.3, 8.5.6, 8.5.7, 8.6.1		8.1.31, 8.3.2, 8.3.4
Water Bill Of Rights (403)	8.4.1, 8.5.7, 8.7.13		8.2.1
Water Crossings (421)	8.1.3, 8.5.6, 8.5.7		8.3.2, 8.3.7, 8.3.8, 8.3.11
What's Happening? (425)	8.4.1, 8.4.6, 8.5.3, 8.6.1, 8.7.12	8.2.1	8.3.9
Whose Problem Is It? (429)	8.4.1		8.3.9
Raining Cats & Dogs (435)	8.1.1		8.3.3
The Rainstick (442)	8.4.1		8.1.1
Water Celebration (446)	8.5.6, 8.5.7		
Water Messages In Stone (454)	8.6.1		
Water Write (457)	8.5.1, 8.5.6, 8.5.7, 8.6.1		
Wish Book (460)			8.5.7

## Grade 8

### Standard 1

#### READING: Word Recognition, Fluency, and Vocabulary Development

*Students use their knowledge of word parts and word relationships, as well as context clues (the meaning of the text around a word), to determine the meaning of specialized vocabulary and to understand the precise meaning of grade-level-appropriate words.*

##### *Vocabulary and Concept Development*

- 8.1.1 Analyze idioms and comparisons — such as analogies, metaphors, and similes — to infer the literal and figurative meanings of phrases.

Idioms: expressions that cannot be understood just by knowing the meanings of the words in the expression, such as *to be an old hand at something* or *to get one's feet wet*

Analogies: comparisons of the similar aspects of two different things

Metaphors: implied comparisons, such as *The stars were brilliant diamonds in the night sky.*

Similes: comparisons that use like or as, such as *The stars were like a million diamonds in the sky.*

##### **WET Activities (page): 435**

- 8.1.3 Verify the meaning of a word in its context, even when its meaning is not directly stated, through the use of definition, restatement, example, comparison, or contrast.  
Example: Understand the meaning of *pickle* in a sentence, such as *The pickle was an important part of metal working.* Use a dictionary to help clarify the use of the word *pickle* in this context.

##### **WET Activities (page): 54, 201, 421**

### Standard 2

#### READING: Comprehension (Focus on Informational Materials)

*Students read and understand grade-level-appropriate material. They describe and connect the essential ideas, arguments, and perspectives of the text by using their knowledge of text structure, organization, and purpose. The selections in the **Indiana Reading List** (available online at [www.doe.state.in.us/standards/readinglist.html](http://www.doe.state.in.us/standards/readinglist.html)) illustrate the quality and complexity of the materials to be read by students. At Grade 8, in addition to regular classroom reading, students read a variety of narrative (story) and expository (informational and technical) texts, including classic and contemporary literature, poetry, magazines, newspapers, reference materials, and online information.*

##### *Comprehension and Analysis of Grade-Level-Appropriate Text*

- 8.2.5 Use information from a variety of consumer and public documents to explain a situation or decision and to solve a problem.  
Example: Decide which is the most practical and economical wireless telephone to purchase by reading articles, brochures, Web pages, and other consumer sources, such as *Consumer Reports*.

##### **WET Activities (page): 12, 72**

## Standard 3

### READING: Literary Response and Analysis

*Students read and respond to grade-level-appropriate historically or culturally significant works of literature that reflect and enhance their study of history and social science. They clarify the ideas and connect them to other literary works. The selections in the **Indiana Reading List** (available online at [www.doe.state.in.us/standards/readinglist.html](http://www.doe.state.in.us/standards/readinglist.html)) illustrate the quality and complexity of the materials to be read by students.*

#### *Structural Features of Literature*

- 8.3.1 Determine and articulate the relationship between the purposes and characteristics of different forms of poetry (including ballads, lyrics, couplets, epics, elegies, odes, and sonnets).

Ballad: a poem that tells a story

Lyric: words set to music

Couplet: two successive lines of verse that rhyme

Epic: a long poem that describes heroic deeds or adventures

Elegy: a mournful poem for the dead

Ode: a poem of praise

Sonnet: a rhymed poem of 14 lines

Example: Describe the different forms of poetry. Compare poems such as John Ciardi's "Elegy for Jog," Pablo Neruda's "Odes to Common Things," and Edgar Allan Poe's sonnet "To Science."

**WET Activities (page): 182**

#### *Literary Criticism*

- 8.3.7 Analyze a work of literature, showing how it reflects the heritage, traditions, attitudes, and beliefs of its author.

Example: Read a short biography of Edgar Allan Poe, Jack London, Shirley Jackson, Helen Keller, or Maya Angelou. Analyze how the author's experiences can be used to interpret his or her writings.

**WET Activities (page): 246**

## Standard 4

### WRITING: Process

*Students discuss, list, and graphically organize writing ideas. They write clear, coherent, and focused essays. Students progress through the stages of the writing process and proofread, edit, and revise writing.*

#### *Organization and Focus*

- 8.4.1 Discuss ideas for writing, keep a list or notebook of ideas, and use graphic organizers to plan writing.

**WET Activities (page):** 7, 12, 19, 85, 89, 93, 122, 144, 150, 157, 161, 174, 182, 186, 201, 219, 232, 260, 262, 271, 274, 289, 307, 316, 328, 344, 348, 360, 367, 377, 397, 400, 403, 425, 429, 442

- 8.4.2 Create compositions that have a clear message, a coherent thesis (a statement of position on the topic), and end with a clear and well-supported conclusion.

**WET Activities (page):** 12

#### *Research and Technology*

- 8.4.4 Plan and conduct multiple-step information searches using computer networks.

**WET Activities (page):** 12

- 8.4.5 Achieve an effective balance between researched information and original ideas.

**WET Activities (page):** 12, 72

- 8.4.6 Use a computer to create documents by using word-processing skills and publishing programs; develop simple databases and spreadsheets to manage information and prepare reports.

**WET Activities (page):** 400, 425

#### *Evaluation and Revision*

- 8.4.7 Review, evaluate, and revise writing for meaning and clarity.

**WET Activities (page):** 262, 400

- 8.4.8 Edit and proofread one's own writing, as well as that of others, using an editing checklist or set of rules, with specific examples of corrections of frequent errors.

**WET Activities (page):** 262, 400

- 8.4.9 Revise writing for word choice; appropriate organization; consistent point of view; and transitions among paragraphs, passages, and ideas.

**WET Activities (page):** 262, 400

### **Standard 5**

#### **WRITING: Applications (Different Types of Writing and Their Characteristics)**

*At Grade 8, students continue to write narrative (story), expository (informational), persuasive, and descriptive essays (of at least 750 to 1,000 words). Students are introduced to writing technical documents. Student writing demonstrates a command of Standard English and the research, organizational, and drafting strategies outlined in Standard 4 — Writing Process. Writing demonstrates an awareness of the audience (intended reader) and purpose for writing.*

*In addition to producing the different writing forms introduced in earlier grades, such as letters, Grade 8 students use the writing strategies outlined in Standard 4 — Writing Process to:*

- 8.5.1 Write biographies, autobiographies, and short stories that:

tell about an incident, event, or situation, using well-chosen details.

reveal the significance of, or the writer's attitude about, the subject.

use narrative and descriptive strategies, including relevant dialogue, specific action, physical description, background description, and comparison or contrast of characters.

Example: Write an autobiographical account of one of your most memorable first days of school. Describe the day and its importance clearly enough so the reader can see and feel the day from your perspective.

**WET Activities (page):** 174, 457

8.5.3

Write research reports that:

define a thesis (a statement of position on the topic).

include important ideas, concepts, and direct quotations from significant information sources, including print reference materials and the Internet, and paraphrase and summarize all perspectives on the topic, as appropriate.

use a variety of primary and secondary sources and distinguish the nature and value of each.

organize and display information on charts, tables, maps, and graphs.

document sources with reference notes and a bibliography.

Example: Research the topic of the benefits and drawbacks of public transportation. Conduct research to learn why some experts argue that we should use more public transportation.

Survey parents and friends to find out how often they use public transportation for school, business, or pleasure travel. Summarize the findings and write a report on the pros and cons of public transportation, including charts and graphs to support your findings.

**WET Activities (page):** 12, 35, 72, 79, 89, 174, 206, 219, 254, 262, 316, 322, 338, 397, 400, 425

8.5.4

Write persuasive compositions that:

include a well-defined thesis that makes a clear and knowledgeable appeal.

present detailed evidence, examples, and reasoning to support effective arguments and emotional appeals.

provide details, reasons, and examples, arranging them effectively by anticipating and answering reader concerns and counterarguments.

Example: Using the research completed on public transportation, write a persuasive letter to the mayor on why the community should or should not invest more resources into public transportation.

**WET Activities (page):** 12

8.5.6

Write using precise word choices to make writing interesting and exact.

Example: Write stories, reports, articles, and letters using a variety of word choices. (Use *adequately* instead of *enough*. Use *encyclopedia* or *mystery novel* instead of *book*.)

**WET Activities (page):** 182, 206, 219, 262, 316, 322, 348, 397, 400, 421, 446, 457

8.5.7

Write for different purposes and to a specific audience or person, adjusting tone and style as necessary.

Example: Write a letter to the editor in response to an opinion column in your school or community newspaper.



**WET Activities (page):** 7, 12, 35, 43, 54, 72, 79, 79, 89, 116, 129, 157, 161, 174, 182, 206, 219, 254, 262, 267, 271, 279, 307, 316, 322, 344, 348, 360, 397, 400, 403, 421, 446, 457

## **Standard 6**

### **WRITING: English Language Conventions**

*Students write using Standard English conventions appropriate to this grade level.*

#### *Sentence Structure*

- 8.6.1 Use correct and varied sentence types (simple, compound, complex, and compound-complex) and sentence openings to present a lively and effective personal style.

**WET Activities (page):** 35, 43, 54, 72, 79, 89, 116, 122, 129, 161, 171, 206, 219, 246, 254, 262, 267, 271, 279, 307, 311, 316, 322, 397, 400, 425, 454, 457

## **Standard 7**

### **LISTENING AND SPEAKING: Skills, Strategies, and Applications**

*Students deliver focused, coherent presentations that convey ideas clearly and relate to the background and interests of the audience. They evaluate the content of oral communication. Students deliver well-organized formal presentations using traditional speech strategies, including narration, exposition, persuasion, and description. Students use the same Standard English conventions for oral speech that they use in their writing.*

#### *Organization and Delivery of Oral Communication*

- 8.7.2 Match the message, vocabulary, voice modulation (changes in tone), expression, and tone to the audience and purpose.

**WET Activities (page):** 262

- 8.7.5 Use appropriate grammar, word choice, enunciation (clear speech), and pace (timing) during formal presentations.

**WET Activities (page):** 262

- 8.7.6 Use audience feedback, including both verbal and nonverbal cues, to reconsider and modify the organizational structure and/or to rearrange words and sentences for clarification of meaning.

**WET Activities (page):** 262, 289

#### *Speaking Applications*

- 8.7.10 Deliver narrative (story) presentations, such as biographical or autobiographical information that:

relate a clear incident, event, or situation, using well-chosen details.

reveal the significance of the incident, event, or situation.

use narrative and descriptive strategies to support the presentation, including relevant dialogue, specific action, physical description, background description, and comparison or contrast of characters.

**WET Activities (page): 260**

8.7.11 Deliver oral responses to literature that:

interpret a reading and provide insight.

connect personal responses to the writer's techniques and to specific textual references.

make supported inferences about the effects of a literary work on its audience.

support judgments through references to the text, other works, other authors, or personal knowledge.

**WET Activities (page): 25**

8.7.12 Deliver research presentations that:

define a thesis (a position on the topic).

research important ideas, concepts, and direct quotations from significant information sources and paraphrase and summarize important perspectives on the topic.

use a variety of research sources and distinguish the nature and value of each.

present information on charts, maps, and graphs.

**WET Activities (page): 7, 12, 25, 85, 238, 254, 262, 289, 322, 397, 425**

8.7.13 Deliver persuasive presentations that:

include a well-defined thesis (position on the topic).

differentiate fact from opinion and support arguments with detailed evidence, examples, reasoning, and persuasive language.

anticipate and effectively answer listener concerns and counterarguments through the inclusion and arrangement of details, reasons, examples, and other elements.

maintain a reasonable tone.

**WET Activities (page): 12, 403**

## Grade 8

*In this technological age, mathematics is more important than ever. When students leave school, they are more and more likely to use mathematics in their work and everyday lives — operating computer equipment, planning timelines and schedules, reading and interpreting data, comparing prices, managing personal finances, and completing other problem-solving tasks. What they learn in mathematics and how they learn it will provide an excellent preparation for a challenging and ever-changing future.*

*The state of Indiana has established the following mathematics standards to make clear to teachers, students, and parents what knowledge, understanding, and skills students should acquire in Grade 8:*

### **Standard 2 — Computation**

Fluency in computation is essential. Students add, subtract, multiply, and divide rational numbers. They use percentages to calculate simple and compound interest. They also use mental arithmetic to compute with fractions, decimals, powers, and percentages.

### **Standard 5 — Measurement**

The study of measurement is essential because of its uses in many aspects of everyday life. Students convert common measurements for lengths, areas, volumes, weights, capacities, and times. They develop and use the concept of rate and derived measures — e.g., velocity and density. They apply the concepts of similarity, ratio, and proportion to problems involving scale factors, areas, and volumes. They find areas, perimeters, volumes, and surface areas, including those of irregular shapes made up of more basic shapes.

### **Standard 6 — Data Analysis and Probability**

Data are all around us — in newspapers and magazines, in television news and commercials, in quality control for manufacturing — and students need to learn how to understand data. At this level, they evaluate whether claims based on data are reasonable and employ various sampling methods, analyzing their strengths and weaknesses. They understand the concepts of the median and quartiles and use these measures to draw and analyze box-and-whisker plots. They represent and analyze two-variable data using scatterplots. They understand the concept of equally likely events and use it to find probabilities. They also find the number of arrangements of objects using the Basic Counting Principle.

### **Standard 7 — Problem Solving**

In a general sense, mathematics is problem solving. In all of their mathematics, students use problem-solving skills: they choose how to approach a problem, they explain their reasoning, and they check their results. As they develop their skills with irrational numbers, analyzing graphs, or finding surface areas, for example, students move from simple ideas to more complex ones by taking logical steps that build a better understanding of mathematics.

*As part of their instruction and assessment, students should also develop the following learning skills by Grade 12 that are woven throughout the mathematics standards:*

### **Communication**

The ability to read, write, listen, ask questions, think, and communicate about math will develop and deepen students' understanding of mathematical concepts. Students should read text, data, tables, and graphs with comprehension and understanding. Their writing should be detailed and coherent, and they

should use correct mathematical vocabulary. Students should write to explain answers, justify mathematical reasoning, and describe problem-solving strategies.

## **Reasoning and Proof**

Mathematics is developed by using known ideas and concepts to develop others. Repeated addition becomes multiplication. Multiplication of numbers less than ten can be extended to numbers less than one hundred and then to the entire number system. Knowing how to find the area of a right triangle extends to all right triangles. Extending patterns, finding even numbers, developing formulas, and proving the Pythagorean Theorem are all examples of mathematical reasoning. Students should learn to observe, generalize, make assumptions from known information, and test their assumptions.

## **Representation**

The language of mathematics is expressed in words, symbols, formulas, equations, graphs, and data displays. The concept of one-fourth may be described as a quarter,  $\frac{1}{4}$ , one divided by four, 0.25,  $\frac{1}{8} + \frac{1}{8}$ , 25 percent, or an appropriately shaded portion of a pie graph. Higher-level mathematics involves the use of more powerful representations: exponents, logarithms,  $\pi$ , unknowns, statistical representation, algebraic and geometric expressions. Mathematical operations are expressed as representations: +, =, divide, square. Representations are dynamic tools for solving problems and communicating and expressing mathematical ideas and concepts.

## **Connections**

Connecting mathematical concepts includes linking new ideas to related ideas learned previously, helping students to see mathematics as a unified body of knowledge whose concepts build upon each other. Major emphasis should be given to ideas and concepts across mathematical content areas that help students see that mathematics is a web of closely connected ideas (algebra, geometry, the entire number system). Mathematics is also the common language of many other disciplines (science, technology, finance, social science, geography) and students should learn mathematical concepts used in those disciplines. Finally, students should connect their mathematical learning to appropriate real-world contexts.

## **Standard 2 Computation**

*Students compute with rational numbers\* expressed in a variety of forms. They solve problems involving ratios, proportions, and percentages.*

- 8.2.1 Add, subtract, multiply, and divide rational numbers (integers\*, fractions, and terminating decimals) in multi-step problems.

Example:  $-3.4 + 2.8 \times 5.75 = ?$ ,  $1\frac{4}{5} + -\frac{3}{8} \times 2\frac{2}{9} = ?$ ,  $81.04 \div 17.4 - 2.79 = ?$ .

**WET Activities (page):** 136, 271, 289, 307, 328, 367, 382, 425

## **Standard 5 Measurement**

*Students convert between units of measure and use rates and scale factors to solve problems. They compute the perimeter, area, and volume of geometric objects. They investigate how perimeter, area, and volume are affected by changes of scale.*

- 8.5.1 Convert common measurements for length, area, volume, weight, capacity, and time to equivalent measurements within the same system.

Example: The area of a hall is 40 square yards. What is the area in square feet?

**WET Activities (page):** 271, 307, 328

- 8.5.2 Solve simple problems involving rates and derived measurements for attributes such as velocity and density.

Example: A car travels at 60 mph for 20 minutes. How far does it travel? What units are appropriate for distance? Explain your answer.

**WET Activities (page):** 136

## Standard 6

### Data Analysis and Probability

*Students collect, organize, represent, and interpret relationships in data sets that have one or more variables. They determine probabilities and use them to make predictions about events.*

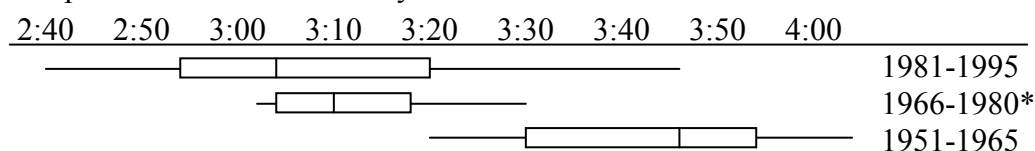
- 8.6.1 Identify claims based on statistical data and, in simple cases, evaluate the reasonableness of the claims. Design a study to investigate the claim.

Example: A study shows that teenagers who use a certain brand of toothpaste have fewer cavities than those using other brands. Describe how you can test this claim in your school.

**WET Activities (page):** 43

- 8.6.4 Analyze, interpret, and display single- and two-variable data in appropriate bar, line, and circle graphs; stem-and-leaf plots\*; and box-and-whisker plots\* and explain which types of display are appropriate for various data sets.

Example: The box-and-whisker plots below show winning times (hours:minutes) for the Indianapolis 500 race in selected years:



\*Except 1967, 1973, 1975, and 1976.

In the years from 1951-1965, the slowest time was 3 h 57 min. Explain how the slowest time changed through the years 1951-1995. How did winning times change during that period? How did the median times change in the same period?

**WET Activities (page):** 30, 79, 116, 279, 289, 293, 311, 367

## Standard 7

### Problem Solving

*Students make decisions about how to approach problems and communicate their ideas.*

8.7.1 Analyze problems by identifying relationships, telling relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.

Example: Solve the problem: “For computers, binary numbers are great because they are simple to work with and they use just two values of voltage, magnetism, or other signal. This makes hardware easier to design and more noise resistant. Binary numbers let you represent any amount you want using just two digits: 0 and 1. The number you get when you count ten objects is written 1010. In expanded notation, this is  $1 \leq 2^3 + 0 \leq 2^2 + 1 \leq 2^1 + 0 \leq 2^0$ . Write the number for thirteen in the binary (base 2) system.” Decide to make an organized list.

**WET Activities (page):** 136

## GRADE 8

### *United States History – Growth and Development*

*In Grade 8, students focus upon United States history, beginning with a brief review of early history, including the Revolution and founding era, and the principles of the United States and Indiana constitutions, as well as other founding documents and their applications to subsequent periods of national history and to civic and political life. Students then study national development, westward expansion, social reform movements, and the Civil War and Reconstruction.*

*The Indiana's K – 8 academic standards for social studies are organized around five content areas. The content area standards and the types of learning experiences they provide to students in Grade 8 are described below. On the pages that follow, age-appropriate concepts are listed underneath each standard. Skills for thinking, inquiry, and participation in a democratic society are integrated throughout. Specific terms are defined and examples are provided when necessary.*

### **Standard 1 — History**

Students will examine the relationship and significance of themes, concepts, and movements in the development of United States history, including review of key ideas related to the discovery, exploration, and colonization of America, and the revolution and founding era. This will be followed by emphasis on social reform, national development and westward expansion, and the Civil War and Reconstruction period.

### **Standard 2 — Civics and Government**

Students will explain the major principles, values, and institutions of constitutional government and citizenship, which are based on the founding documents of the United States.

### **Standard 3 — Geography**

Students will identify the major geographic characteristics of the United States and its regions. They will name and locate the major physical features of the United States, each of the states, and major cities, and use geographic skills and technology to examine the influence of geographic factors on national development.

### **Standard 5 — Individuals, Society, and Culture**

Students will examine the influence of individuals, ideas, and cultural movements in the development of the United States; consider the impact of scientific and technological developments on cultural life, and analyze the importance of artistic expression in the development of the American nation.

### **Standard 1 History**

*Students will examine the relationship and significance of themes, concepts, and movements in the development of United States history, including review of key ideas related to the discovery, exploration, and colonization of America, and the revolution and founding era. This will be followed by emphasis on social reform, national development and westward expansion, and the Civil War and Reconstruction period.*

### **Historical Knowledge**

## *The American Revolution and Founding of the United States: 1754 to 1801*

- 8.1.1 Describe major Indian groups of eastern North America, including early conflict with European settlers.

**WET Activities (page):** 442

- 8.1.2 Compare and contrast the relationships among the British, French, Spanish, and Dutch in their struggle for control of North America during European settlement and colonization.

**WET Activities (page):** 246

## *National Expansion and Reform: 1801 to 1861*

- 8.1.11 Explain the events leading up to and the significance of the Louisiana Purchase (1803) and the expedition of Lewis and Clark (1803–1806).

**WET Activities (page):** 246

## **Issues-Analysis, Decision-Making, Planning, and Problem Solving**

- 8.1.31 Examine the causes of problems in the past and evaluate solutions chosen as well as possible alternative courses of actions. Consider the information available at the time, the interests of those affected by the decision, and the consequences of each course of action.

**WET Activities (page):** 12, 311, 392, 400

## **Standard 2**

### **Civics and Government**

*Students will explain the major principles, values, and institutions of constitutional government and citizenship, which are based on the founding documents of the United States.*

### **Foundations of Government**

- 8.2.1 Identify and explain essential ideas of constitutional government, which are expressed in the founding documents of the United States, including the Virginia Declaration of Rights, the Declaration of Independence, the Virginia Statute for Religious Freedom, the Massachusetts Constitution of 1780, the Northwest Ordinance, the 1787 U.S. Constitution, the Bill of Rights, the Federalist and Anti-Federalist Papers, Washington's Farewell Address (1796), and Jefferson's First Inaugural Address (1801).

Example: The essential ideas include limited government, rule of law, due process of law, separated and shared powers, checks and balances, federalism, popular sovereignty, republicanism, representative government, and individual rights to life, liberty, property, freedom of conscience, and due process of law.

**WET Activities (page):** 403

### **Functions of Government**

- 8.2.9 Examine functions of the national government in the lives of people, including purchasing and distributing public goods and services, financing government through taxation, conducting foreign policy, and providing a common defense.



- \* unitary system: a system that concentrates all governmental power in a central or national government
- \* federal system: a system in which power is divided and shared between national and state governments
- \* confederate system: a system of government in which sovereign states delegate powers to a national government for specific purposes

## **WET Activities (page): 392**

### **Roles of Citizens**

- 8.2.13 Research and defend positions on issues in which fundamental values and principles related to the Constitution of the United States are in conflict, using a variety of information resources\*.  
Example: Majority rule and minority rights, liberty and equality, or individual rights and the common good.

- \* information resources: print media, such as books, magazines, and newspapers; electronic media, such as radio, television, Web sites, and databases; and community resources, such as individuals and organizations

## **WET Activities (page): 392**

### **Standard 3 Geography**

*Students will identify the major geographic characteristics of the United States and its regions. They will name and locate the major physical features of the United States, each of the states, and major cities, and use geographic skills and technology to examine the influence of geographic factors on national development.*

#### **The World in Spatial Terms**

##### **Places and Regions**

- 8.3.2 Map and locate all states of the United States, major cities, mountain ranges, and river systems of the United States.

## **WET Activities (page): 107, 206, 267, 400, 421**

##### **Physical Systems**

- 8.3.3 Locate and map the major climate regions in the United States and describe the characteristics of each climate type.

## **WET Activities (page): 174, 201, 206, 435**

- 8.3.4 Name and describe processes that build\* up the land and processes that erode\* it.  
Example: The Appalachian Mountains are a formation that has undergone erosion.

- \* building: forces that build up Earth's surface include mountain building and deposit of dirt by water, ice, and wind; the Mississippi Delta is made up almost entirely of eroded material
- \* erosion: the process by which the products of weathering\* are moved from one place to another

- \* weathering: the breaking down of rocks and other materials on Earth's surface by such processes as rain or wind

**WET Activities (page):** 116, 166, 186, 400

## Human Systems

- 8.3.5 Identify the agricultural regions of the United States and be able to give reasons for the type of land use during different historical periods.

**WET Activities (page):** 254

- 8.3.7 Analyze geographic factors that have influenced migration and settlement patterns and relate them to the economic development of the United States.

Example: The presence of a major waterway influences economic development and the workers who are attracted to that development.

**WET Activities (page):** 174, 254, 421

## Environment and Society

- 8.3.8 Develop maps showing the distribution of natural resources — such as forests, water sources, and wildlife — in the United States at the beginning of the nineteenth century and give examples of how people exploited these resources as the country became more industrialized and people moved westward.

**WET Activities (page):** 232, 242, 246, 293, 421

- 8.3.9 Identify ways people modified the physical environment as the United States developed and the types of problems that resulted.

Example: Identify urbanization\*, deforestation\*, and extinction\* or near extinction of wildlife species.

\* urbanization: the growth of cities

\* deforestation: the clearing of trees or forests

\* extinction: the state in which all members of a group of organisms, such as a species, population, family or class, have disappeared from a given habitat, geographic area, or the entire world

**WET Activities (page):** 12, 232, 242, 254, 267, 311, 316, 322, 338, 344, 348, 353, 367, 377, 382, 397, 425, 429

## Uses of Geography

- 8.3.10 Explain the importance of the major mountain ranges and the major river systems in the development of the United States in the eighteenth and nineteenth centuries.

Example: Locate major cities, and suggest reasons for their location and development.

**WET Activities (page):** 293

- 8.3.11 Use information technology, such as Geographic Information Systems (GIS)\* and remotely sensed images, to gather information on ways people changed the physical environment of the United States in the nineteenth century.

- \* Geographic Information Systems (GIS): information technology systems used to store, analyze, manipulate, and display a wide range of geographic information

**WET Activities (page):** 421

## **Standard 5**

### **Individuals, Society, and Culture**

*Students will examine the influence of individuals, ideas, and cultural movements in the development of the United States; consider the impact of scientific and technological developments on cultural life, and analyze the importance of artistic expression in the development of the American nation.*

- 8.5.7 Give examples of scientific and technological developments that changed cultural life in the nineteenth-century United States, such as the use of photography, the invention of the telegraph (1844), and the invention of the telephone (1876).

**WET Activities (page):** 242, 260, 311, 382, 460